

REMARKS

Claims 1 and 3-19 are pending in the application. Claims 1 and 8 have been amended, claim 2 has been canceled, and claims 9-19 are newly added to the application. No new matter has been introduced by the amendment.

Response to Examiner's Comments

In the instant Office Action the Examiner suggested that claim 8 be reworded to better clarify the claimed subject matter with respect to the magnetic pole portion. Accordingly, the applicants have amended claim 8 to recite that the magnetic pole portion comprises one of two alternative structures. Alternative structure a) includes a lower magnetic pole layer adjacent the lower core, an upper magnetic pole layer adjacent the upper core layer, and a gap layer located between the lower magnetic pole layer and the upper magnetic pole layer. Alternative structure b) includes an upper magnetic pole layer adjacent the upper core layer and a gap layer located between the upper magnetic pole layer and the lower core layer.

Claim 8 has also been amended to recite that the plated film is a "plated magnetic film." In view of the amendment, the applicants assert that the recited alternative structure for the magnetic pole portion is clearly recited.

Rejection Under 35 U.S.C. § 102

Claims 1-6 and 8 have been rejected under 35 U.S.C. § 102(a) over U.S. Patent Publication No. 2003/0048582 to Kanada et al. and Japanese Patent Publication No. 2003-077723 to Yazawa et al. In response to this rejection, the applicants submit herewith a certified English translation of their Japanese priority application Serial No. 2002-266305, filed September 12, 2002. The applicants filed their Japanese priority application before the U.S. publication date of Kanada et al. and before the Japanese publication date of Yazawa et al. The applicants assert that their priority document satisfies the requirements of 35 U.S.C. § 112 first paragraph. Accordingly, in accordance with MPEP § 706.02(b) the rejection under 35 U.S.C. § 102(a) has been overcome.

Claims 1-6 and 8 have been rejected under 35 U.S.C. § 102(e) over Yamaguchi et al. The applicants hereby assert that this rejection has been overcome in view of their filing of the accompanying certified English translation of their Japanese priority application Serial No. 2002-266305.

Claims 1-2 and 6 have been rejected under 35 U.S.C. § 102(a) over Funayama et al.¹ This rejection is overcome in view of the amendment of claim 1 together with the following remarks.

Claims 1 and 8 have been amended to clarify the applicants' invention by reciting that the columnar crystals are provided side-by-side in film surface direction with grain boundaries extending in the film thickness direction therebetween. In contrast, Funayama et al. discloses a CoFe film dispersed in an aluminum oxide matrix (para. 0078 and FIG. 2). The difference in film structure between that disclosed by Funayama et al. and the claimed magnetic film is exemplified by the difference in film formation techniques. Funayama et al. disclose a sputtering method in which the film is sputtered from a target that includes both CoFe and an insulator M, such as aluminum oxide. (para. 0081). Accordingly, Funayama et al. disclose a three-phase alloy that includes CoFe in combination with a third element M.

In contrast to the three-phase, sputtered film disclosed by Funayama et al., the applicants disclose and claim a plated film that is formed by a plating process such that the columnar CoFe crystals align side by side. As a result of the improved film structure, a magnetic film is produced that has improved surface roughness, corrosion resistance, and saturation magnetic flux density. (Specification, pg. 40).

Rejection Under 35 U.S.C. § 103(a)

Claim 7 has been rejected over Kanada et al. in view of Sato et al. Claim 7 has also been rejected over Yazawa et al. in view of Sato et al. This rejection is overcome in view of the applicants filing of a certified English translation of their Japanese priority application Serial No. 2002-266305.

¹ Although Funayama et al. has been cited as prior art under 102(a), this reference was not published before the applicants' U.S. filing date and, therefore, qualifies as prior art under 102(e).

Claim 6 has been rejected under 35 U.S.C. § 103(a) over Yamaguchi et al. in view of Funayama et al. This rejection is believed overcome in view of the applicants' submission of a certified English translation of their Japanese priority application.

Claim 7 has been rejected over Yamaguchi et al. in view of Sato et al. This rejection is overcome in view of the applicants' submission of their Japanese priority application Serial No. 2002-266305.

Claims 2-5 have been rejected over Funayama et al. in view of Sasaki et al. This rejection is overcome in view of the applicants' submission of their Japanese priority application Serial No. 2002-266305.

Claim 7 has been rejected over Funayama et al. in view of Sato et al. This rejection is overcome in view of the amendment of claim 1 together with the following remarks. As discussed above, Funayama et al. discloses a CoFe film dispersed in an aluminum oxide matrix (para. 0078 and FIG. 2) and thus differs from the side by side columnar structure recited in claim 1 from which claim 7 depends.

Claim 8 has been rejected over Kudo et al. in view of Japanese Patent App. No. JP 62-226413 and Funayama et al. This rejection is overcome in view of the following remarks.

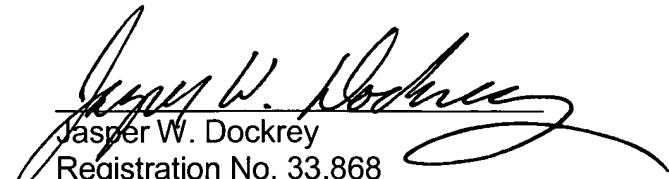
The applicants respectfully assert that neither Kudo et al. nor JP 62-226413 suggest or disclose the claimed thin film magnetic head having a plated CoFe magnetic film in which the plated film includes side by side columnar crystals extending in a film thickness direction. Instead, both Kudo et al. and JP 62-226413 disclose cobalt-nickel-iron alloys. Further, as asserted above, Funayama et al. discloses a sputtered Co-Fe film dispersed in an aluminum oxide matrix, which differs from the applicants' claimed plated magnetic film having side by side columnar crystals.

New Claims

Claims 9-19 have been added to the application in order that the applicants can more fully claim the subject matter of their invention. New claims 9-19 depend either directly or indirectly from claim 8 and recite further unique aspects of the plated magnetic film recited by claim 8.

The applicants have made a novel and non-obvious contribution to the art of magnetic film composition and thin film magnetic head design. The claims at issue are believed to be in condition for allowance and such allowance is now earnestly requested.

Respectfully submitted,


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